



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604**

DATE: November 18, 2015

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Citizens Thermal, Indianapolis, Indiana

FROM: Kevin Vuilleumier, Environmental Engineer ✓
AECAB (MN/OH)

THRU: Brian Dickens, Section Chief
AECAB (MN/OH)

TO: File

BASIC INFORMATION

Facility Name: Citizens Thermal

Facility Location: 366 Kentucky Avenue, Indianapolis, Indiana

Date of Inspection: July 22, 2015

Lead Inspector: Kevin Vuilleumier, Environmental Engineer

Other Attendees:

1. Drew McClay, Citizens Thermal
2. Cheryl Carlson, Citizens Thermal
3. Bob Purdue, Citizens Thermal
4. Bob Anderson, Citizens Thermal
5. Glenn Smith, Citizens Thermal
6. Patrick Miller, U.S. EPA

Purpose of Inspection: Core program and Indianapolis community group effort

Facility Type: Steam Generating Plant

Regulations Central to Inspection: Indiana State Implementation Plan; 40 C.F.R. Part 60, Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units); 40 C.F.R. Part 61, Subpart M (National Emission Standard for Asbestos); 40 C.F.R. Part 63, Subpart 5D (National Emission Standard for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters);

Arrival Time: 9:00 AM
Departure Time: 11:00 AM

Inspection Type:

- ☒ Unannounced Inspection
- ☐ Announced Inspection

OPENING CONFERENCE

- ☒ Credentials Presented
- ☒ CBI warning to facility provided

The following information was obtained verbally from Mr. McClay, Mr. Purdue, Mr. Anderson, or Ms. Carlson unless otherwise noted. The facility did not claim any information provided during the inspection or as follow-up to the inspection as confidential business information.

Company Ownership: The facility was originally built in 1893 and provided power to Indianapolis during the 1920s. The facility originally was a coal-fired plant, but began burning coke oven gas as fuel in certain units. The facility recently finished converting all of its units to burn only natural gas as fuel with the exception of two package boilers that fire natural gas but are capable of using fuel oil as back up. The natural gas hub for Citizens Thermal is City Gate. Citizens Gas delivers the natural gas from City Gate to the plant. A third party delivers the gas to City Gate. There are two natural gas suppliers for City Gate.

Process Description:

The facility is the second largest steam plant and provides steam to both industrial and commercial customers. It provides steam for heating, cooling, process steam, and sterilization. The facility has eight units identified as boilers 11, 12, 13, 14, 15, 16, 17, and 18.

Boiler 11 has a heat input of 368 million British Thermal Units per hour (MMBtu/hr). It has four burners and began firing natural gas in 1998. The unit was capable of burning coke oven gas but it ceased burning coke oven gas in 2007.

Boiler 12 has a heat input of 439 MMBtu/hr. It was originally a pulverized coal-fired unit. It currently has four burners and was converted to natural gas in December 2013.

Boilers 13 and 14 each have a heat input of 403 MMBtu/hr. Each has six burners and began burning only natural gas as fuel in 1998.

Boiler 15 is a stoker coal-fired boiler. It operated as a coal-fired unit through April of 2014 but is currently in cold storage.

Boiler 16 has a heat input of 340 MMBtu/hr. It was a stoker coal-fired boiler and was converted to natural gas in April 2014.

Boiler 17 and 18 are package boilers with a heat input of 242 MMBtu/hr. They burn natural gas as fuel. The units are permitted to burn fuel oil as back up fuel (for example during a natural gas curtailment), however, the facility would need to switch out the burners before it could burn fuel oil. The last shipment of fuel oil was in 2010. Fuel oil is stored in an underground storage tank.

The facility also has two turbines although one has not been used since the 1920s. The second turbine is used to produce power plant electricity but none of the turbine generated electricity is sent to the grid.

The facility has three stacks in use. Boilers 15-18 vent to stack one, Boiler 11 and 14 vent to stack three, and boilers 12 and 13 vent to stack four.

The facility operates continuous emission monitoring systems (CEMS) for nitrogen oxides (NO_x), carbon monoxide (CO), carbon dioxide (CO₂), sulfur dioxide (SO₂), and flow. Boilers 11, 12, 13, 14, and 16 have NO_x and CO₂ CEMS. Boilers 11, 13, and 14 have CO and SO₂ CEMS. Each of the boilers have flow monitors. There are no monitoring requirements for Boiler 17 or 18.

The CEMS for boiler 16 are all located before the associated stack to obtain unit specific emissions measurements. The NO_x and CO CEMS for boilers 11, 13, and 14 are located before the stack to obtain unit specific emission measurements. The CEMS for Unit 12 are located in stack four. Citizens Thermal uses fuel flow measurements to calculate the unit specific emissions from the shared stack for boilers 12 and 13.

Each of the operating boilers have low-NO_x burners for NO_x control. The old electrostatic precipitators, needed when the units were burning coal to control particulate matter, are still in place, although none are powered up. Emissions from the natural gas-fired units, however, still pass through the ESPs.

Staff Interview: The facility has 48 employees and operates twenty-four hours per day, seven days per week. The facility maintains an operations crew around the clock, but only has one shift for maintenance and electrical. The facility conducts annual inspections and maintenance work on select units. To maintain continuous operation, Citizens Thermal splits up the annual work among specific units in April and the remaining units in November.

TOUR INFORMATION

EPA toured the facility: Yes

Data Collected and Observations:

The facility had limited operation during the tour (the only boiler operating was boiler 12). We walked through the entire facility observing each of the boilers. We also visited the CEMS shelters for all of the CEMS. Glenn Smith, Electrical Supervisor, joined us for the tour of the CEMS shelters.

While we walked to each of the CEMS shelters, Mr. Smith explained that there are only three stacks still in use and pointed out where stack two was removed. Mr. Smith also explained that Citizens Thermal's shelter identified as CEMS Shelter A serves CEMS associated with units venting to stack three. The other CEMS shelter (Shelter B), serves CEMS associated with units venting to stacks one and four. He also explained that the NOx analyzers for the CEMS for stack three were changed out in January 2015.

Field Measurements: were not taken during this inspection.

RECORDS REVIEW

EPA briefly looked through the last year to year and a half of daily logs at each of the CEMS shelters. No other onsite records review was performed during this inspection.

CLOSING CONFERENCE

Requested documents:

- Plant Layout
- EPA did not request any other documents because the facility has converted all of its coal-fired (and coke oven gas-fired) boilers to natural gas.

Compliance Assistance: General assistance was provided in relation to monitoring and general discussion about the conversion to natural gas and pollutants that could still be a concern.

Concerns: No concerns were shared with the facility at the time of the inspection.

SIGNATURES

Lead Inspector: Kevin Vulliamis Date: 11/18/2015

Section Chief: Brian Dickens Date: 11/23/15